

We claim:

1. A pharmaceutical composition comprising:
an isolated SED1 polypeptide having an amino acid sequence selected from SEQ ID NOs: 2, 4, 5, 6, or 7, wherein the polypeptide is in an amount effective to inhibit mammalian gamete adhesion, or in an amount effective to promote mammalian gamete adhesion.
 2. (Canceled).
 3. The composition of claim 1, further comprising a pharmaceutically acceptable carrier or excipient.
 4. The composition of claim 1, wherein the polypeptide competitively inhibits *in vivo* or *in vitro* binding of sperm to unfertilized zona pellucida.
 - 5-7. (Canceled).
 8. The composition of claim 1, wherein the isolated SED1 polypeptide binds to male gametes, female gametes, male and female gametes, zona pellucida, or combinations thereof.
 9. The composition of claim 1, wherein the isolated SED1 polypeptide is a recombinant polypeptide.
- 10-52. (Canceled)